

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

M.E DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

First Semester

Product Development and Design

PPDT2414 / PD4152 - Integrated Product Development

Regulations - 2021 & 2024

Duration : 3 Hrs

Maximum : 100 Marks

PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	Define customer focus.	RE	1	2
2.	List the importance of product development.	RE	1	2
3.	Give the basic methods involved in concept generation.	UN	2	2
4.	State concept selection.	RE	2	2
5.	What is mean by product architecture.	RE	3	2
6.	Assess the need for the quality in industrial design.	AP	3	2
7.	List the steps in DFM process.	RE	4	2
8.	Define robust design.	RE	4	2
9.	What are the steps involved in reducing assembly cost?	RE	5	2
10.	Infer the planning steps involved in task representation.	UN	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

Q.No	Questions	BLT	CO	Marks
11.	a i Explain briefly about the characteristics of successful product development.	UN	1	8
	ii List the challenges in new product development.	UN	1	5
	Or			
	b Describe the input methods for obtaining information from customer, using suitable illustrations.	UN	1	13
12.	a How can the concept selection methods be used to benchmark existing products? Perform such an evaluation for five automobile you might consider purchasing.	CR	2	13
	Or			
	b Propose a set of selection criteria and testing method for the choice of a battery technology in an electric vehicle.	CR	2	13
13.	a Compare the slot modular architecture, bus modular architecture and section Modular architecture in terms of functionality.	AP	3	13
	Or			
	b Compare the assessment of Industrial Design quality with continuous quality control systems.	AP	3	13

14.	a	i	Discuss the DFM process, with suitable example.	UN	4	5
		ii	Explain the steps to reduce component and assembly cost for the gear box making company.	UN	4	8
Or						
	b	i	Explain basic principles and operation used in prototype design.	UN	4	8
		ii	Write the types of prototyping technologies.	UN	4	5
15.	a	i	Explain economic analysis method applied in the manufacturing of aerospace components.	UN	5	8
		ii	Write short notes on project execution.	UN	5	5
Or						
	b	i	Explain the method of accelerating the projects.	UN	5	5
		ii	Discuss need for quantitative analysis.	UN	5	8

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	Judge the importance of producing recyclable products in an eco-friendly production system.	AN	1	15
		Or			
	b	Summarize the reasons why reducing the number of parts in a product might reduce production costs. Also explain some reasons why costs might increase	AN	4	15